

# E. Sidney Hunter, III

## Education

- B.S., Hampden Sydney College, Hampden-Sydney, VA; Chemistry, 1980.
- M.S., Old Dominion University, Norfolk, VA; Toxicology, 1983.
- Ph.D., University of North Carolina at Chapel Hill, Chapel Hill, NC; Anatomy/Embryology, 1986.

## Professional Experience

- 1993-present: Toxicologist, EPA.
- 2005-present: Acting Branch Chief, Gamete and Early Embryo Biology Branch, RTD, NHEERL, EPA.

## Research Interests

- Mechanisms of embryonic development.
- Evaluating effects of xenobiotics and model pharmacological inhibitors using whole embryo culture.
- Evaluating effects of modulating gene expression (antisense oligonucleotides and adenovirus delivery) on morphogenesis.
- Evaluating effects of xenobiotics (e.g. haloacetic acids) on embryonic gene and protein expression.
- Using embryonic stem cells as a model to evaluate effects of xenobiotics on differentiation.

## Professional Activities

- Member, Organizing Committee, International Life Sciences Institute/Health and Environmental Sciences Institute Scientific Meeting: Evaluation of In Vitro Systems for Prediction and Assessment of Developmental Toxicants. Stem cell section. 2007.
- Course co-director, Embryology and Teratology, Department of Cell and Developmental Biology/Curriculum in Toxicology, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC. 2003, 2005, 2007.
- Co-organizer, Symposium on Genomics and Proteomics in Reproductive and Developmental Toxicity. Society of Toxicology, Salt Lake City, UT. 2003.
- Member, International Life Sciences Institute (ILSI) Scientific Panel: Statistically-based Structure-Activity Relationships (SAR) Systems for Developmental Toxicity: Limitations and Challenges. ILSI Risk Science Institute. 2003.
- Member, Genomics and Proteomics Committee, National Health and Environmental Effects Research Laboratory, EPA. 2001-2006. Chair-2006.
- Member, doctoral committees, University of North Carolina at Chapel Hill: Toxicology Curriculum, School of Medicine; Department of Cell Biology and Anatomy, School of Medicine; Environmental Sciences and Engineering, School of Public Health.
- Chair, Proteomics Users Group, National Health and Environmental Effects Research Laboratory, Health Division, EPA. 2004-2006.

- Member, Science Policy Council, Technical Framework on Genomics for EPA, Performance Based Quality Assurance Workgroup. 2004-2006.
- Chair, Toxicogenomics Advisory Committee, National Health and Environmental Effects Research Laboratory, EPA. 2006-present.
- Member, Drinking Water Multiyear Plan Writing Team, Long Term Goal 1: Disinfection By-Product Workgroup. 2006.

## Invited Lectures/Symposia

- Lecture, Understanding Pathways of Toxicity: Making Sense of Changing Signals Symposium, Teratology Society, Vancouver, BC. 2004.
- Long Range Research Initiative Annual Science Meeting, American Chemistry Council, Miami, FL. 2004.
- Spring Symposium: Toxic Damage to Developmental Signals, Integrated Toxicology Program, Duke University, Durham, NC. 2003.
- Drinking Water and Reproduction Symposium, Society of Toxicology, Nashville, TN. 2002.

## Selected Publications

Johnson C, Sulik KK, Zucker RM, Hunter ES. 2007. Perturbation of retinoic acid (RA)-mediated limb development suggests a role for diminished RA signaling in the teratogenesis of ethanol. *Birth Defects Res A Clin Mol Teratol.* 79:631-641. [Abstract](#)

Hunter ES, Rogers EH, Blanton MR, Richard AM, Chernoff N. 2006. Bromochloro-haloacetic acids: Effects on mouse embryos *in vitro* and QSAR considerations. *Reprod Toxicol.* 21:260-6. [Abstract](#)

Hunter ES, Blanton MR, Rogers EH, Mole M, Andrews JE, Chernoff N. 2006. Short-term exposures to dihaloacetic acids produce dysmorphogenesis in mouse conceptuses *in vitro*. *Reprod Toxicol.* 22:443-48. [Abstract](#)

Rogers EH, Hunter ES, Moser VC, Phillips PM, Herkovits J, Munoz L, Hall LL, Chernoff N. 2005. Potential developmental toxicity of anatoxin-a, a cyanobacterial toxin. *J Appl Toxicol.* 25:527-34. [Abstract](#)

Karoly ED, Schmid JE, Hunter ES. 2005. Ontogeny of transcription profiles during mouse early craniofacial development. *Reprod Toxicol.* 19:265-280. [Abstract](#)

Andrews JE, Nichols HP, Schmid JE, Mole LM, Hunter ES, Klinefelter GR. 2004. Developmental toxicity of mixtures: The water disinfection by-products dichloro-, dibromo- and bromochloro acetic acid in rat embryo culture. *Reprod Toxicol.* 19:111-6. [Abstract](#)

Johnson C, Blanton MR, Hunter ES. 2004. Effects of ethanol and hydrogen peroxide on mouse limb bud mesenchyme differentiation and cell death. *In vitro Cell Dev Biol Anim.* 40:108-112. [Abstract](#)

Simmons JE, Teuschler LK, Gennings C, Speth TF, Richardson SD, Miltner RJ, Narotsky MG, Schenck KD, Hunter ES, Hertzberg RC, Rice G. 2004. Component-based and whole-mixture techniques for addressing the toxicity of drinking-water disinfection by-product mixtures. *J Toxicol Environ Health A.* 67:741-54. [Abstract](#)

Degitz SJ, Rogers JM, Zucker RM, Hunter ES. 2004. Developmental toxicity of methanol: Pathogenesis in CD-1 and C57BL/6J mice exposed in whole embryo culture. *Birth Defects Res A Clin Mol Teratol.* 70:179-84. [Abstract](#)

Rogers EH, Hunter ES, Rosen MB, Rogers JM, Lau C, Hartig PC, Francis BM, Chernoff N. 2003. Lack of evidence for intergenerational reproductive effects due to prenatal and postnatal undernutrition in the female CD-1 mouse. *Reprod Toxicol.* 17:519-25. [Abstract](#)

White LD, Hunter ES, Miller MW, Ehrich M, Barone S. 2004. Role of apoptosis in neurotoxicology. In: *In Vitro Neurotoxicology: Principles and Challenges*. Ed.: E. Tiffany-Castiglioni, Humana Press, Totowa, NJ.

Simmons JE, Richardson SD, Speth TF, Miltner RJ, Rice G, Schenck KM, Hunter ES, Teuschler LK. 2002. Development of a research strategy for integrated technology-based toxicological and chemical evaluation of complex mixtures of drinking water disinfection byproducts. *Environ Health Perspect.* 110 Suppl 6:1013-24. [Abstract](#)

Fascineli ML, Hunter ES, De Grava Kempinas W. 2002. Fetotoxicity caused by the interaction between zinc and arsenic in mice. *Teratog Carcinog Mutagen.* 22:315-27. [Abstract](#)

Chernoff N, Hunter ES, Hall LL, Rosen MB, Brownie CF, Malarkey D, Marr M, Herkovits J. 2002. Lack of teratogenicity of microcystin-LR in the mouse and toad. *J Appl Toxicol.* 22:13-7. [Abstract](#)